

Package ‘ggCompNet’

December 31, 2016

Type Package

Title Compare Timing of Network Visualizations

Version 0.1.0

Description We provide two primary resources in 'ggCompNet'. The first is a function to compare the speed of network drawing using several different packages. The second is the vignette folder which contains two vignettes that provide code for reproducing examples comparing the three network visualization packages 'geomnet', 'ggnetwork', and the ggnet2() function from the 'GGally' package.

License GPL (>= 2)

URL <http://github.com/sctyner/ggCompNet>

BugReports <https://github.com/sctyner/ggCompNet/issues>

LazyData TRUE

Depends R (>= 2.14), ggplot2 (>= 2.2.0), geomnet (>= 0.2.0), ggnetwork (>= 0.5.1), GGally (>= 1.3.0), progress

Imports dplyr, igraph (>= 1.0.1), sna (>= 2.4), network, ggmap, tidyr, tnet, scales, gridExtra, readr

Suggests knitr, rmarkdown

RoxygenNote 5.0.1

VignetteBuilder knitr

NeedsCompilation no

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Repository CRAN

Date/Publication 2016-12-31 16:32:06

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compare_all	<i>Runtime comparison</i>
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Description

Runtime comparison

Usage

```
compare_all
```

Format

a data frame consisting of 50000 comparison runs across ten different systems, ten different network sizes, and five different packages of 100 iterations each.

- setup character. Description of computer system running the code.
- network_size. Size of the network (25, 50, 75, 100, 125, 150, 175, 200, 225, or 250 nodes)
- iteration. Integer 1-100.
- ‘Visualization approach’. Method used. ("igraph", "network", "ggnet2", "geomnet", or "ggnetwork")
- time. Time taken to plot graph in seconds.

fortify.adjmat	<i>Function for converting a network adjacency matrix into the correct format for use with geomnet</i>
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Description

Function for converting a network adjacency matrix into the correct format for use with geomnet

Usage

```
## S3 method for class 'adjmat'
fortify(model, data = NULL, ...)
```

Arguments

model	An adjacency matrix of class "adjmat".
data	not used in this function
...	not used in this function

Examples

```
library(ggCompNet)
data(emon, package = "network")
adjmat <- geomnet::as.adjmat(network::as.matrix.network.adjacency(emon$MtSi))
str(adjmat)
ggCompNet:::fortify.adjmat(adjmat)
```

runtimes_protein	<i>Runtime results from protein example</i>
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Description

Runtime results from protein example

Usage

```
runtimes_protein
```

Format

a data frame consisting of 100 comparison runs across five different packages

- iteration iteration number.
- igraph runtime under the **igraph** package.
- network runtime under the **network** package.
- ggnet2 runtime under the GGally::[ggnet2](#) function.
- geomnet runtime under the **geomnet** package.
- ggnetwork runtime under the **ggnetwork** package.

timeDrawings *Time drawings of random graphs*

Description

Time drawings of random graphs

Usage

```
timeDrawings(niter = 100, sizes = seq(250, 25, -25), eprob = 0.2,  
             wd = "./", newpack = NULL, classnew = NULL, newcode = NULL)
```

Arguments

niter	integer. How many times to repeat each drawing for each drawing method. Default is 100.
sizes	integer vector. What size(s) of network (how many nodes) should be drawn? Default is seq(250, 25, -25).
eprob	numeric. Value between 0-1. Edge probability of random graph. Default is .2.
wd	character. Working directory where you want to store the timing results. Default is current working directory.
newpack	character. Name of additional package (or function) that you wish to compare to igraph , network , ggnet2 , geomnet , and ggnetwork .
classnew	character. Class of object taken to be plotted with the new method. (think "igraph", "network", etc.)
newcode	expression. The code required to plot the random graph using the newpack method. Must take an object called n for plotting.

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